National Spent Nuclear Fuel Program

# Spent Nuclear Fuel Database

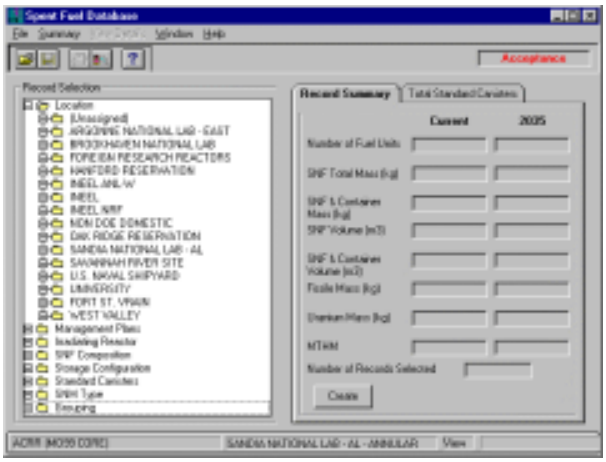
### Mission
Provide accurate data for all U.S. Department of Energy-owned or managed spent nuclear fuel.

### Benefits
- A single source of data for all U.S. Department of Energy-owned or managed fuel
- Provides ability to search on a wide range of parameters
- Accurate and verifiable data
- Knowledge base on more then 250 fuel types

### Project Status
- Formal data updates are available in March and September
- Data is continually updated
- Software modifications are made as needed for specialized data and technical decisions being made (dispositions, canister loadings, etc.)

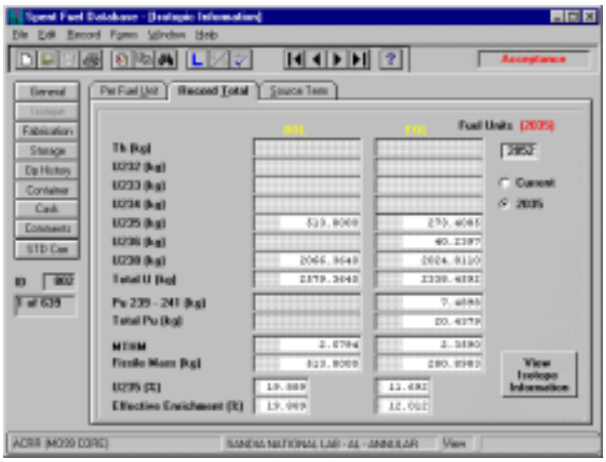
### Purpose
The Spent Nuclear Fuel Database stores detailed and verifiable spent nuclear fuel characterization information for all of the U.S. Department of Energy (DOE)-owned spent nuclear fuel. These data are needed to make sound, safe decisions for the best handling, storage, transport, and disposal of the spent fuel.

### Project Description
The Spent Nuclear Fuel Database provides details about all DOE spent nuclear fuel, including the mode of storage (wet or dry), the number of fuel types if stored in a canister, and physical dimensions of the fuel and related storage containers. It contains data on the chemical composition and isotopic values for both beginning-of-life and end-of-life heavy metal content. The Spent Nuclear Fuel Database also provides interim storage data.



*The Spent Nuclear Fuel Database provides data about spent nuclear fuel owned by DOE.*

### Benefits
The Spent Nuclear Fuel Database provides a single source of information about the DOE-owned and managed spent nuclear fuel. The Spent Nuclear Fuel Database provides the necessary information to safely and properly store and dispose spent nuclear fuel. The database capabilities provide for data searches based on a wide range of parameters. The data are accurate and verifiable. The database is available to help address spent nuclear fuel management questions and is a tool for developing cost-effective solutions to spent nuclear fuel management issues.



*Isotopic information for the spent nuclear fuels is included in the Spent Nuclear Fuel Database along with other details about mode of storage and physical characteristics.*

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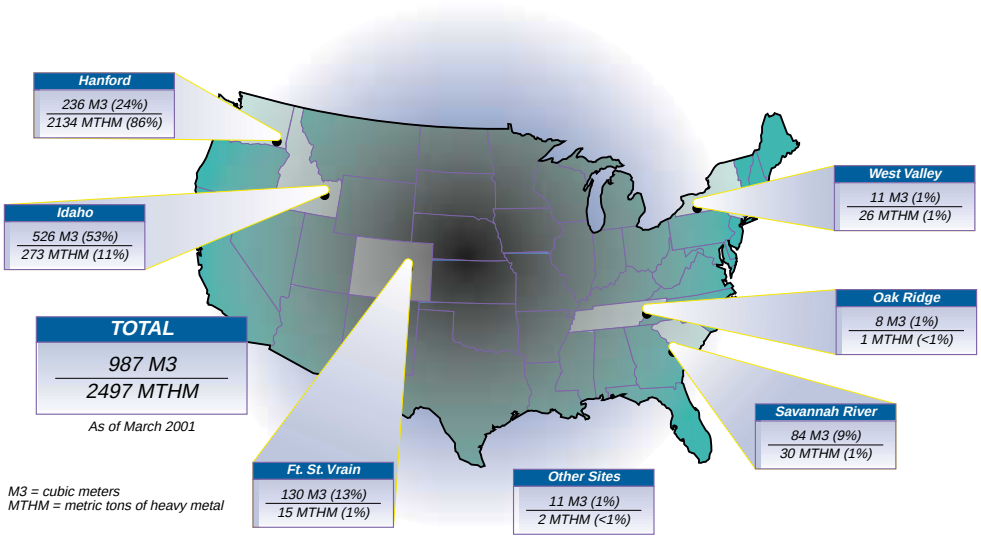
### *Unique Capabilities*

The Spent Nuclear Fuel Database is divided into the following categories:

- Basic inventory data — location, number of fuel units, future disposition
- Burn-up data — minimum, average, and maximum burn-up, and amount of fissile material consumed
- Unusual fuel conditions — identification of unique events and modifications to the original fuel element configuration
- Basic physical and chemical characteristics — fuel element geometry, size, shape, gross weight, volume, chemical composition
- Heavy metal isotopic mass loading — beginning-of-life and end-of-life masses
- Reactor operating histories

### *Project Status*

The Spent Nuclear Fuel Database receives semi-annual updates at the end of March and September. Work is constantly underway to improve the data within the database. A transaction log lists all changes made, who made them, when they were made, and documents the old values. Modifications to the software keep pace with the need for specialized data and ongoing technical decisions. In addition, the database administrator maintains electronic copies of each previous version in two separate and secure locations and reviews all documents to ensure the database meets current quality assurance standards.




***The map illustrates the most significant quantities of DOE-owned and managed spent nuclear fuel and its storage location at the Department of Energy sites.***

***End of March and September each year*** update versions of Spent Nuclear Fuel Database, including changes to software packages and new fuel data

### *Project Contacts*

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